



November 21, 2019

*NPDES Individual Industrial Stormwater Permit for CPI USA LLC  
Permit No. NCS000348*



# *Presentation Outline*

- Stormwater Permitting Program Overview
- CPI Southport Facility Overview
- CPI Southport Draft Stormwater Permit



# *Stormwater Permitting*



# Stormwater Permitting

- **Division of Energy, Mineral and Land Resources (DEMLR)**
  - **Stormwater Program**
    - NPDES Construction Stormwater Program
    - Post-Construction Stormwater Program
    - **NPDES Industrial Program** 
    - NPDES MS4 Program
    - Water Supply Watershed Program
- **National Pollutant Discharge Elimination System (NPDES) Industrial Program**
  - **Individual Permits** 
  - General Permits
  - No Exposure Certifications

Stormwater Program Website: [deq.nc.gov/SW](http://deq.nc.gov/SW)



# Stormwater Permitting

## NPDES Industrial Program

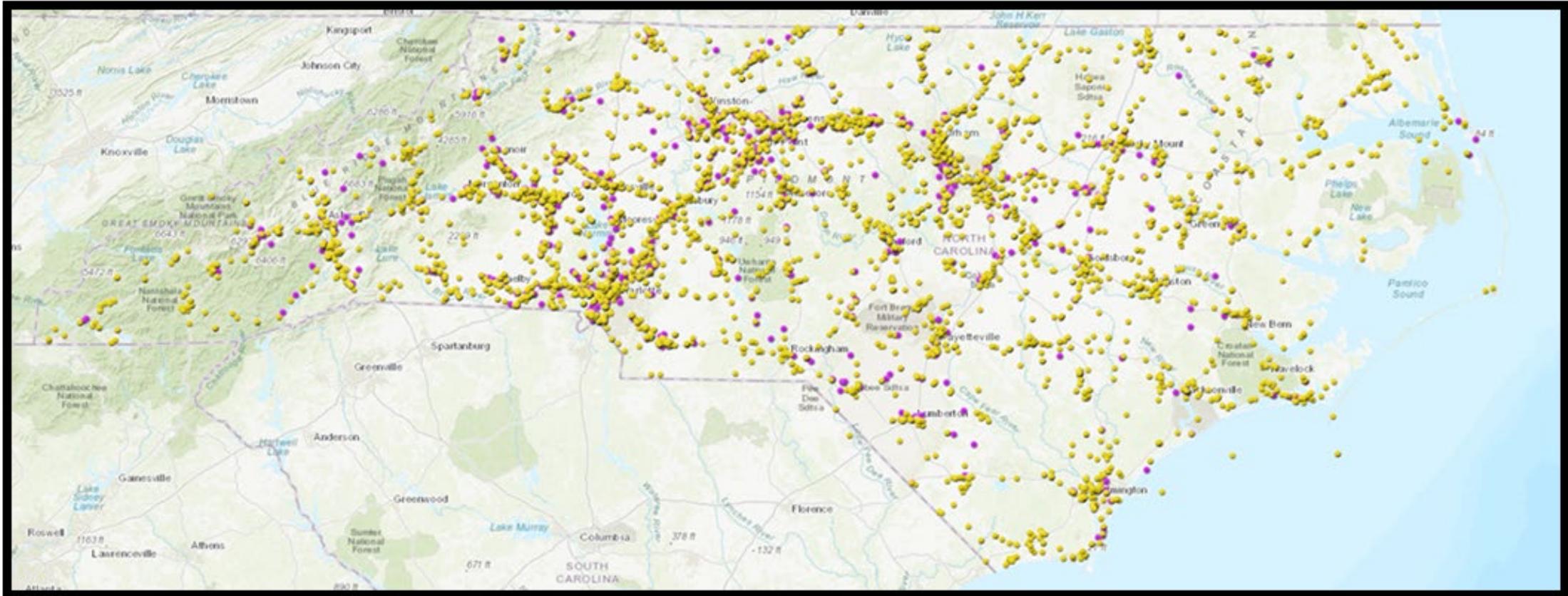
- Our NPDES program is federally mandated and covers a wide variety of industrial activities.
- We determine who is permitted by using Standard Industrial Classification (SIC) Codes. There are 11 federally regulated categories. If the facility's SIC code fits into one of those categories, it **MUST** be permitted:
  - General Permit
  - **Individual Permit** 
  - No Exposure Certification
- **General Permits** – Apply to broad categories of industrial activities.
  - NC has 21 different Industrial General Permits that cover stormwater discharges associated with industrial activities and construction.
  - Ex. Metal Fabrication, Food and Kindred, Landfills, Ready-Mixed Concrete
- **Individual Permits** are for facilities that don't fit into one of the 21 general categories. 
- **No Exposure Certifications** are for facilities that have a SIC code that trigger permitting, but industrial materials and operations are not exposed to stormwater.
  - It is just a building and a parking lot

# *Stormwater Permitting*

## **Important Notes:**

- After a facility is permitted, it is allowed to discharge stormwater as long as it follows the conditions of its permit.
- A stormwater permit is a separate permit from a wastewater or air quality permit.
- Stormwater permits only pertain to stormwater, not wastewater, air quality or other aspects of environmental protection.

# NPDES Industrial Permit Map



- General permits (3,151)
- Individual permits (167)
- No exposure certifications (880)



# *Stormwater Permitting*

## **How the Process Starts**

- Facilities are not allowed to discharge stormwater without a permit.
- New facilities have to apply for coverage before they open.
- Existing facilities have to apply for renewal every five years.
- First the facility has to complete an application form and provide us with very **detailed descriptions** of:
  - **Facility activities**
  - **Lists of industrial materials, chemicals, products, etc.** that will be exposed to rain water.
  - **Detailed maps that show drainage areas and outfalls**
- DEQ uses this information as to create the permit.

# *Stormwater Permitting*

## **How the Process Starts**

- For Individual stormwater permits, DEQ can require the facility to install an extra BMP or perform more frequent monitoring.
- CPI Southport is renewing its permit, which expired in 2015.
  - The permit allows them to continue to discharge under an expired permit if they apply for renewal within 180 days of the permit expiration and stay current with annual permit fees.
  - The facility must continue to operate under the conditions of the permit during this time.
- The renewal application asks for similar information to the EPA forms. The facility updates us with industrial changes, new maps, etc.



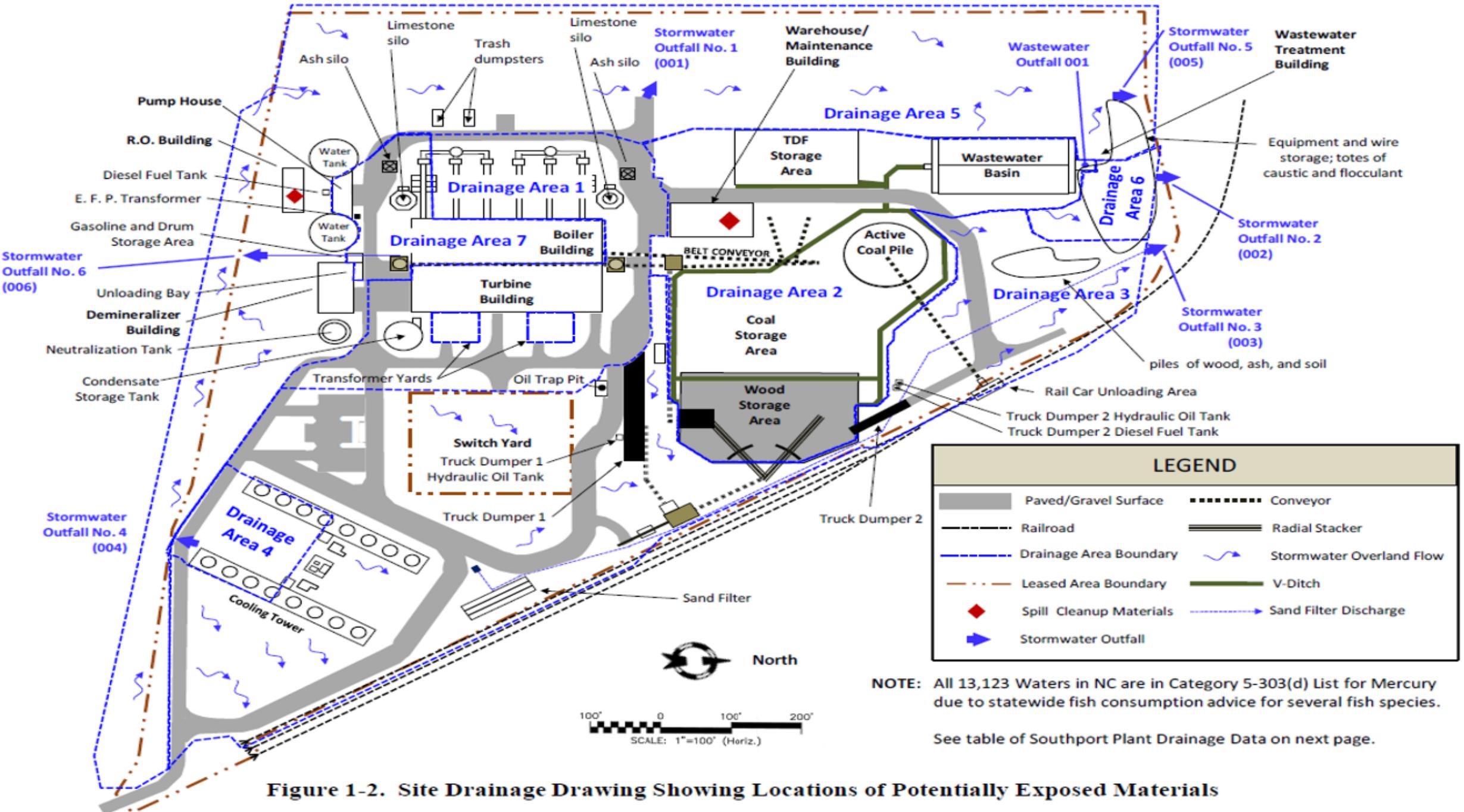
# *Facility Overview*



# Facility Overview



- CPI Southport is a combined heat and power facility
- CPI burns a mixture of coal, tire-derived fuel (TDF), and wood residuals
- Coal burning at the powerplant has been reduced by 90%
- TDF used at the site comes from waste tires
  - Keeps tires out of the landfill
- Wood residuals come from old rail ties that are chipped onsite



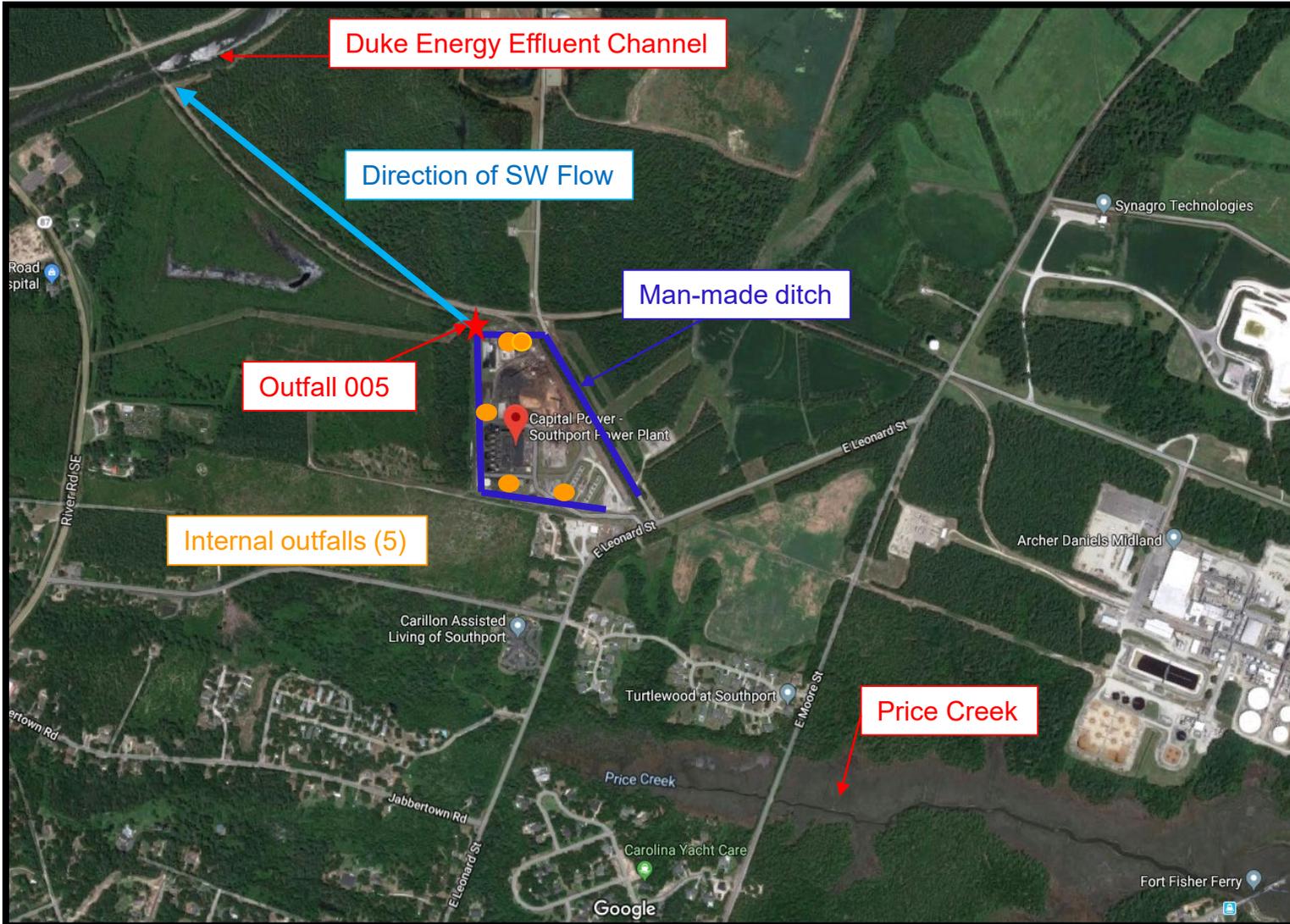
**Figure 1-2. Site Drainage Drawing Showing Locations of Potentially Exposed Materials**

# Facility Overview

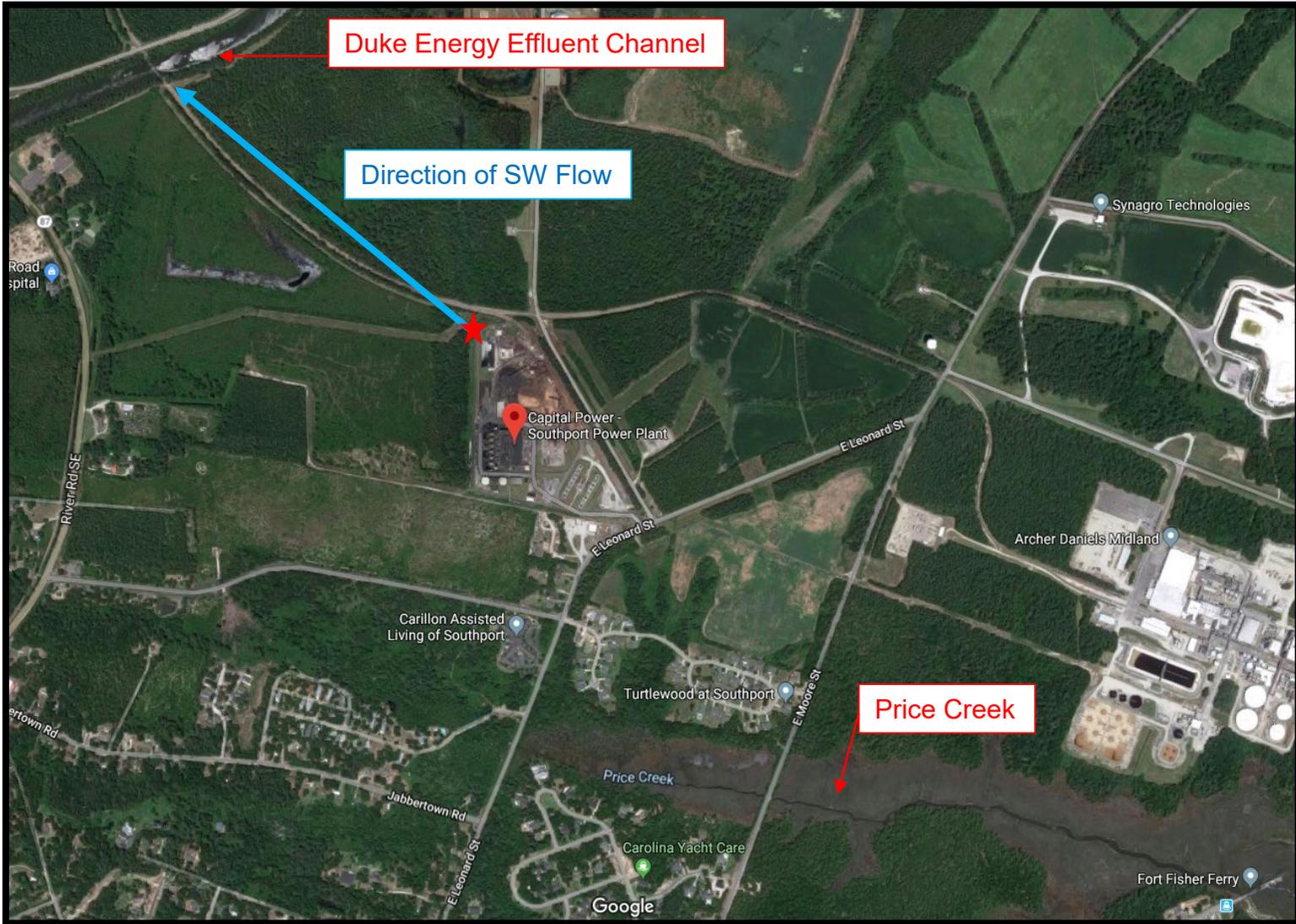
## Outfalls



- The facility has **Representative Outfall Status** and samples stormwater from Representative Outfall 005.
- Representative Outfall Status is granted to facilities that have a single stormwater outfall that is representative of discharges from multiple outfalls
- The site has six outfalls in total; samples are only taken from the Representative Outfall 005.
- **All stormwater leaving the site flows through Outfall 005.**



# Price Creek Clarification



- The draft permit says the facility discharges to Price Creek.
- It was discovered during the renewal process that this was a mistake.
- **Stormwater at the site does not discharge to Price Creek. It discharges to this Duke Energy effluent channel.**
- The Duke energy effluent channel is approximately 9.6 miles long and discharges from a pipe 2,000 feet off shore in the Atlantic Ocean.



# Facility Overview

## Coal



- Materials potentially exposed to stormwater include: Coal , Wood residuals, TDF, Petroleum products, Limestone, and Ash
- Coal for the boiler plant is stored outside in the coal pile.
  - Coal pile runoff is treated in the low volume wastewater system prior to discharge (it does not drain to the stormwater system).
- It should be noted that stormwater runoff from the coal, wood, and TDF piles **would never be permitted as a stormwater discharge**. The runoff from these areas is wastewater.
- Coal is brought in by rail at the north end of the plant, unloaded through a coal chute, and transported via conveyor belt to the coal pile.
- The risk of coal dust entering the stormwater via fugitive dust exists, so coal unloading BMPs like vegetative buffers are used. Water is also sprayed to reduce coal dust and coal dust is swept up daily.

*Department of Environmental Quality*













# Facility Overview

## TDF



- TDF may spill from trucks on paved or gravel roads, the truck dumpers, conveyors, and radial stacker.
- Stormwater flows over the access roads flow through a sand filter.
- Stormwater from the bermed TDF storage areas is diverted to the wastewater treatment basins.
- Trucks are covered, tarped, or enclosed when not being loaded or unloaded and paved roads are swept periodically.
- Spilled materials are completely cleaned up.



# Facility Overview

## Switchyard



- The switch yard is located within in the CPI site; however the switchyard is owned and maintained by Duke.
- Runoff from the switchyard does contribute to stormwater runoff from the facility.



# Facility Overview

## National Salvage



- CPI has contracted out a portion of the facility to National Salvage.
- National Salvage chips old railway ties onsite for CPI to use in their fuel mixture.
- We are in the process of determining the best way to permit this facility.





# *The Draft Permit*



# The Draft Permit

## How to Access the Draft Permit



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## Stormwater Public Notices

### Public Hearing Notice

The N.C. Department of Environmental Quality (DEQ) proposes to issue National Pollutant Discharge Elimination System (NPDES) permits to CPI USA North Carolina LLC - Southport Power Plant. DEQ has scheduled a public hearing to gather comments. All comments presented at the public hearing will be considered in the agency's final determination regarding permit issuance and permit provisions.

CPI USA North Carolina LLC has applied for NPDES permits to discharge wastewater and stormwater from the Southport Power Plant, 1281 Powerhouse Drive, Southport, NC, Brunswick County. The facility discharges to the Atlantic Ocean, Cape Fear River Basin. Currently no parameters are water-quality limited. This discharge may affect future wasteload allocations in this portion of the Atlantic Ocean.

The draft wastewater and stormwater permits are available online [here](#).

### NPDES Stormwater Industrial Individual Permits at Public Notice

The following industrial individual permits and permit renewals are out for public notice until the following dates. Please see the links below to view the permits and provide comments.

Permit Number	Facility Name	County	Status	Public Notice Ends
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### Stormwater Program

[Contacts](#)

[Maps & GIS Resources](#)

[Forms & Fees](#)

[Stormwater Design Manual](#)

[Rules & Regulations](#)

[Construction SW](#)

[Post-Construction Stormwater](#)

[NPDES Industrial Stormwater](#)

[NPDES MS4 Permitting](#)

[Water Supply Watershed Protection Program](#)

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- Go to our website: [deq.nc.gov/SW](http://deq.nc.gov/SW).
  - Click on “Stormwater Public Notices” in the task bar to the right.
    - Click “[here](#)” where prompted.
- This will link you to our Public Hearing Event Page where both the draft wastewater and stormwater permits are available for viewing
- You will still be able to view the draft online after the hearing.



# *The Draft Permit*

Permitting is a multiple months long process, and the permit is seen by many eyes.

To issue/renew a permit, DEQ:

- Contacts the facility when the renewal process begins.
- Reviews the application, monitoring data, old staff reports, and other documents in our permit file.
- Drafts the permit based on the review
- Send the draft permit to the facility and the applicable Regional Office for a 30-day comment period.
- Inspects the facility (Regional Office staff).
- Publishes the draft permit in the newspaper and on our website for a 30-day public comment period.
- Holds a public hearing if there is enough public interest.
- Makes changes to the draft permit based on the inspection and comments from the facility, staff, and the public.
- Conducts a final internal review.
- Signs the permit and puts it into effect (Supervisor).



*Department of Environmental Quality*



# The Draft Permit

Permit No. NCS000348

STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES

PERMIT

TO DISCHARGE STORMWATER UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of North Carolina General Statute 143-215.1, other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission, and the Federal Water Pollution Control Act, as amended,

**CPI USA North Carolina LLC**

is hereby authorized to discharge stormwater from a facility located at:

CPI USA North Carolina – Southpoint Plant  
1281 Powerhouse Drive  
Southport, NC  
Brunswick County

to receiving waters designated as Price Creek, a class SC; Sw water body in the Cape Fear River Basin, in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof.

This permit shall become effective October 1, 2019.

This permit and the authorization to discharge shall expire at midnight on September 30, 2024.

Signed this day September 25, 2019.

\_\_\_\_\_  
for S. Daniel Smith, Director  
Division of Energy, Mineral and Land Resources  
By the Authority of the Environmental Management Commission

## Table of Contents

- **Part I** Introduction
- **Part II** Monitoring, Controls, and Limitations for Permitted Discharges
  - Section A: Stormwater Pollution Prevention Plan
  - Section B: Analytical Monitoring
  - Section C: Qualitative Monitoring
  - Section D: Special Conditions
- **Part III** Standard Conditions for NPDES Stormwater Individual Permits
  - Section A: Compliance and Liability
  - Section B: General Conditions
  - Section C: Operation Maintenance and Pollution Controls
  - Section D: Monitoring and Records
  - Section E: Reporting Requirements
- **Part IV** Definitions



# *The Draft Permit*

## The SWPPP

The facility must create, maintain and implement a Stormwater Pollution Prevention Plan that includes:

- Site overview
  - Stormwater Management Strategy
  - Spill Prevention and Response Procedures
  - Preventative Maintenance and Good Housekeeping Program
  - Facility Inspections
  - Employee Training
  - Responsible Parties
  - Annual Update Requirements
  - SWPPP Implementation
- The purpose of the SWPPP is for the facility to have an extensive plan for keeping the site as clean as possible to prevent stormwater exposure to contamination. There are a lot of moving parts involved in keeping the facility clean, like employee training, spill response, frequent inspections, etc., and this is what this section of the permit is for.
  - The permit requires that the facility has to continue to evaluate the feasibility of the SWPPP and make updates when needed.
  - DEQ assesses compliance with the SWPPP during facility inspections.



Parameter	Units	Benchmark
Aluminum, total recoverable	mg/L	N/A
Antimony, total recoverable	mg/L	N/A
Arsenic, total recoverable	mg/L	0.34 mg/L
Beryllium	mg/L	N/A
Boron	mg/L	N/A
Cadmium	mg/L	0.003 mg/L
Chromium VI, total recoverable	mg/L	0.016 mg/L
Copper, total recoverable	mg/L	0.010 mg/L
Lead, total recoverable	mg/L	0.075 mg/L
Mercury	mg/L	N/A
Nickel, total recoverable	mg/L	0.335 mg/L
Selenium	mg/L	0.056 mg/L
Silver, total recoverable	mg/L	0.0003 mg/L
Thallium	mg/L	N/A
Zinc, total recoverable	mg/L	0.126 mg/L
Chemical Oxygen Demand (COD)	mg/L	120 mg/L
Total Suspended Solids (TSS)	mg/L	100 mg/L
Sulfate	mg/L	500 mg/L
Oil and Grease	mg/L	30 mg/L
pH	Standard Units	6.8 – 8.5
Total Rainfall <sup>4</sup>	inches	-
Non-Polar Oil & Grease by EPA Method 1664 (SGT-HEM) for outfalls with vehicle/ equipment maintenance activities <sup>5</sup>	mg/L	15 mg/l
New Motor Oil Usage for outfalls with vehicle/ equipment maintenance activities <sup>5</sup>	Gallons/ month	--



- DEQ uses the information provided in the application and our observations during the site inspections to determine sampling parameters.
- The permit includes requirements for when the facility can sample, how, and by who.
- Samples are taken semi-annually (twice a year). The facility turns in those analytical results to us in a Discharge Monitoring Report (DMR).
- If there is not a measurable storm event with the 6 month timeframe, the facility submits a report to us that there was “no discharge.”



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- Benchmarks are determined by the Division of Water Resources (DWR) Planning Section. Because of the sporadic nature of rainfall, **acute (short term effects) to aquatic organisms are considered when establishing stormwater benchmarks.**
- **Benchmarks are not effluent limits.** They are a tool for facilities to:
  - Assess the significance of pollutants in stormwater discharges
  - Assess the effectiveness off their SWPPPs/best management practices
- You will see here that some of the benchmarks are listed as “NA”. This is because we just don’t have adequate data available to set benchmarks for these parameters in saltwater.
- As new data become available and benchmarks can be established, we have all of the data at the facility then compare.
- DEQ monitors the sampling data for spikes that may indicate an issue with the site.



Paramter	Benchmark (Salt Water)	Benchmark (Freshwater)	9/27/2010	7/8/2011	3/19/2012	10/1/2012	4/12/2013	10/7/2013	4/8/2014	4/15/2015	6/7/2016	12/8/2016	6/21/2017	12/8/2017	6/9/2018	12/9/2018	6/13/2019
Aluminum (Al)	N/A	0.75 mg/L	0.43	0.775	0.282	3.9	4.32	10.6	0.175	0.64	0.486	0.799	0.295	0.272	0.212	0.308	0.672
Antimony (Sb)	N/A	0.09 mg/L	<0.010	<0.010	<0.010	<0.020	0.016	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic (As)	0.069 mg/L	0.34 mg/L	<0.010	<0.010	<0.010	<0.020	0.016	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Beryllium (Be)	N/A	0.065 mg/L	<0.010	<0.010	<0.010	<0.004	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.05	<0.010	<0.010	<0.010
Boron (B)	N/A	N/A	0.053	0.242	0.189	0.142	0.041	0.042	0.036	0.039	0.09	0.17	0.121	0.041	<0.05	0.065	0.067
Cadmium (Cd)	0.040 mg/L	0.003 mg/L	<0.010	<0.010	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.010	<0.010	<0.010
Chromium (Cr)	1.1 mg/L	0.905 mg/L	<0.010	<0.010	<0.010	<0.02	0.027	0.03	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.010	<0.010	<0.010
COD	120 mg/L	120 mg/L	41	<20	31	79	442	280	35	79	64	75	87	<20	38	<20	61
Copper (Cu)	0.0058 mg/L	0.010 mg/L	<0.010	<0.010	<0.010	0.025	0.133	0.079	<0.010	<0.010	<0.010	<0.010	0.005	0.002	<0.010	<0.010	<0.005
Lead (Pb)	0.22 mg/L	0.075 mg/L	<0.010	<0.010	<0.010	<0.015	0.072	0.02	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.010	<0.010	<0.010
Mercury (Hg)	N/A (ug/L)	0.000012 mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (Ni)	0.075 mg/L	0.335 mg/L	<0.010	<0.010	<0.010	<0.02	0.035	0.032	<0.010	<0.010	<0.010	<0.010	<0.012	<0.01	<0.010	<0.010	<0.010
O&G	30 mg/L	30 mg/L	<5	<5	<5	<5	<5	<5	<5	<5	7	<5	7	<5	<5	<5	<5
pH	6.8-8.5 s.u.	6-9 s.u.	7.4	7.3	7.85	6.96	N/A	7.74	7.79	7.5	6.82	7.39	7.63	7.51	7.24	7.17	N/A
Selenium (Se)	0.290 mg/L	0.056 mg/L	<0.010	0.036	0.013	<0.02	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.010	<0.010	<0.010
Silver (Ag)	0.0022 mg/L	0.0003 mg/L	<0.010	<0.010	<0.010	<0.02	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0010	<0.010	<0.010	<0.010
Sulfate	500 mg/L	500 mg/L	26	132	179	60	90	38	50	51	92	91	146	<5	23	<5	53
Thallium (Tl)	N/A	N/A	<0.010	<0.010	<0.010	<0.02	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.010	<0.010	<0.010
TR	N/A	N/A	5.65	0.78	0.33	1.1	1.34	0.84	0.84	N/A	1.8	0.94	0.83	0.55	0.43	0.45	0.29
TSS	100 mg/L	100 mg/L	4.9	16.5	4.2	79	236	254	7.8	13.2	21	24.5	19	11.4	8.5	5.5	22.8
Zinc (Zn)	0.095 mg/L	0.126 mg/L	0.071	2.12	0.564	4	20	6.3	0.079	1.29	0.36	0.397	0.453	0.079	0.087	0.079	0.283

Below Detection Limit

- The table above shows all sampling data from the current permit term.
- The color coding is intended to show that where we have “NA” benchmarks, the samples taken at CPI do not typically exceed known freshwater benchmarks.
- We are also working with DWR to see if there is updated data for these benchmarks.
- We have been able to update a few of the benchmarks, but the data is still being reviewed.



# *The Draft Permit*

## **Tier Events**

- What happens after an exceedance?
- We have a system built into the permit for the facility to follow to address, identify, and prevent future benchmark exceedances:
  - **Tier I:** Conduct an inspection, identify the source of the exceedance, find ways to fix the issue, implement the changes, and report the exceedance in the SWPPP.
  - **Tier II:** Immediately triggers monthly monitoring at every outfall where each consecutive exceedance occurred. Repeat Tier I. Monthly monitoring continues until three consecutive samples are below benchmark values.
  - **Tier III:** The facility must report this to the Regional Office and then function under the requirements of Tier III (Implementing stormwater control measures, sampling for additional or substitute parameters, implement site modifications, etc.)

# *The Draft Permit*

## Remaining Parts

- The remainder of the permit can be viewed online:
  - Remaining sections of Part II include Qualitative Monitoring and Special Conditions
  - Part III Standard Conditions for NPDES Stormwater Individual Permits
  - Part IV Definitions



Stormwater Program Website: [deq.nc.gov/SW](http://deq.nc.gov/SW)



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